

Upstream Node	Downstream Node	Upstream Rim Elev (ft)	Upstream Invert (ft)	Downstream Rim Elev (ft)	Downstream Invert (ft)	Length (ft)	Diameter (in)	Slope (%)	Material	Upstream HGL (ft)	Downstream HGL (ft)	UP Check	DN Check
CB #66	CB #67	421.46	415.38	421.46	415.04	27.00	24.00	1.24	RCP	416.98	416.98	OK	OK
CB #67	CB #68	421.46	414.54	421.48	414.49	11.02	24.00	0.50	RCP	416.51	416.46	OK	OK
CB #68	CB #69	421.48	414.29	420.47	414.11	35.49	30.00	0.50	RCP	416.04	416.01	OK	OK
CB #69	CB #73	420.47	413.91	414.14	408.18	160.79	30.00	3.56	RCP	415.38	409.97	OK	OK
CB #73	CB #74	414.14	407.98	411.84	405.23	75.52	30.00	3.64	RCP	409.51	407.66	OK	OK
CB #74	CB #76	411.84	405.03	411.00	402.66	151.40	30.00	1.57	RCP	406.88	404.87	OK	OK
CB #76	FES #77	411.00	402.46	401.00	399.20	65.37	30.00	4.99	RCP	403.44	400.13	OK	OK
EX. 18" OUT	CB #502	428.03	422.84	427.78	422.57	10.98	18.00	2.46	RCP	423.72	423.72	OK	OK



IMPORTANT NOTE REGARDING MH AND CB TOP ELEVATIONS:
Manhole top elevations are software generated based on proposed roadway profile and distance from centerline. The elevations shown are reliable but must be field verified during construction staking prior to installation.

Catch basin top elevations are software generated based on the top, back of curb elevation. These elevations are found to be reliable during review, however some tops may require adjustment in the field. ALL RIM ELEVATIONS MUST BE FIELD VERIFIED DURING CONSTRUCTION STAKING PROCESS PRIOR TO INSTALLATION

- SEPARATION NOTES:**
1. MINIMUM SEPARATION BETWEEN STORM DRAINAGE AND SANITARY SEWER IS 24 INCHES.
 2. MINIMUM SEPARATION BETWEEN WATER AND STORM DRAINAGE IS 18 INCHES.
 3. MINIMUM SEPARATION BETWEEN WATER AND SANITARY SEWER IS 18 INCHES.

HYDRANT, METER, AND CLEAN-OUT NOTES:
ALL HYDRANTS, METERS, AND SEWER SERVICES ARE SHOWN AT APPROXIMATE LOCATIONS. HYDRANTS, AND METERS, ARE TO BE PLACED WITHIN THE RIGHT-OF-WAY AS INDICATED ON CITY OF RALEIGH DETAIL. SEWER SERVICE SHALL BE PLACED INSIDE LOT AS SHOWN ON CITY OF RALEIGH DETAIL. CONTRACTOR SHALL VERIFY AND CONFIRM PROPER LOCATION ACCORDING TO MUNICIPALITY REQUIREMENTS PRIOR TO INSTALLATION. CONTRACTOR SHALL VERIFY PROPER LOCATION WITH MUNICIPALITY INSPECTOR PRIOR TO INSTALLATION

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-4800

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # W-3767

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to the approval once issued will invalidate this approval.

City of Raleigh Development Approval: _____
Raleigh Water Review Officer: _____

ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water, sewer, and/or gas, as approved in these plans, is responsible for contacting the **Public Utilities Department** at (919) 996-4540 at least **twenty-four hours** prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of **monetary fines**, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for inspection, install a downstream plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a **Fine and Possible Exclusion** from future work in the City of Raleigh.



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4822B Windy Hill Drive, Raleigh, North Carolina 27609
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NO.	DATE	REVISION DESCRIPTION	BY	CHK
1	01/08/2023	Preliminary Construction Plans	MAC	
2	10/23/2023	Revised per 1st review comments	MAC	
3	11/23/2023	Revised per 2nd review comments	MAC	
4	01/11/2024	Revised per 3rd review comments	MAC	
5	02/01/2024	Revised per 4th review comments	MAC	
6	02/01/2024	Revised per 5th review comments	MAC	
7	02/01/2024	Revised per 6th review comments	MAC	
8	02/01/2024	Revised per 7th review comments	MAC	
9	02/01/2024	Revised per 8th review comments	MAC	
10	02/01/2024	Revised per 9th review comments	MAC	



Phase 3 Storm Drainage
Preserve at Jones Dairy, South
Preserve at Jones Dairy, LLC
Rolesville, Wake County, North Carolina

Graphic Scale

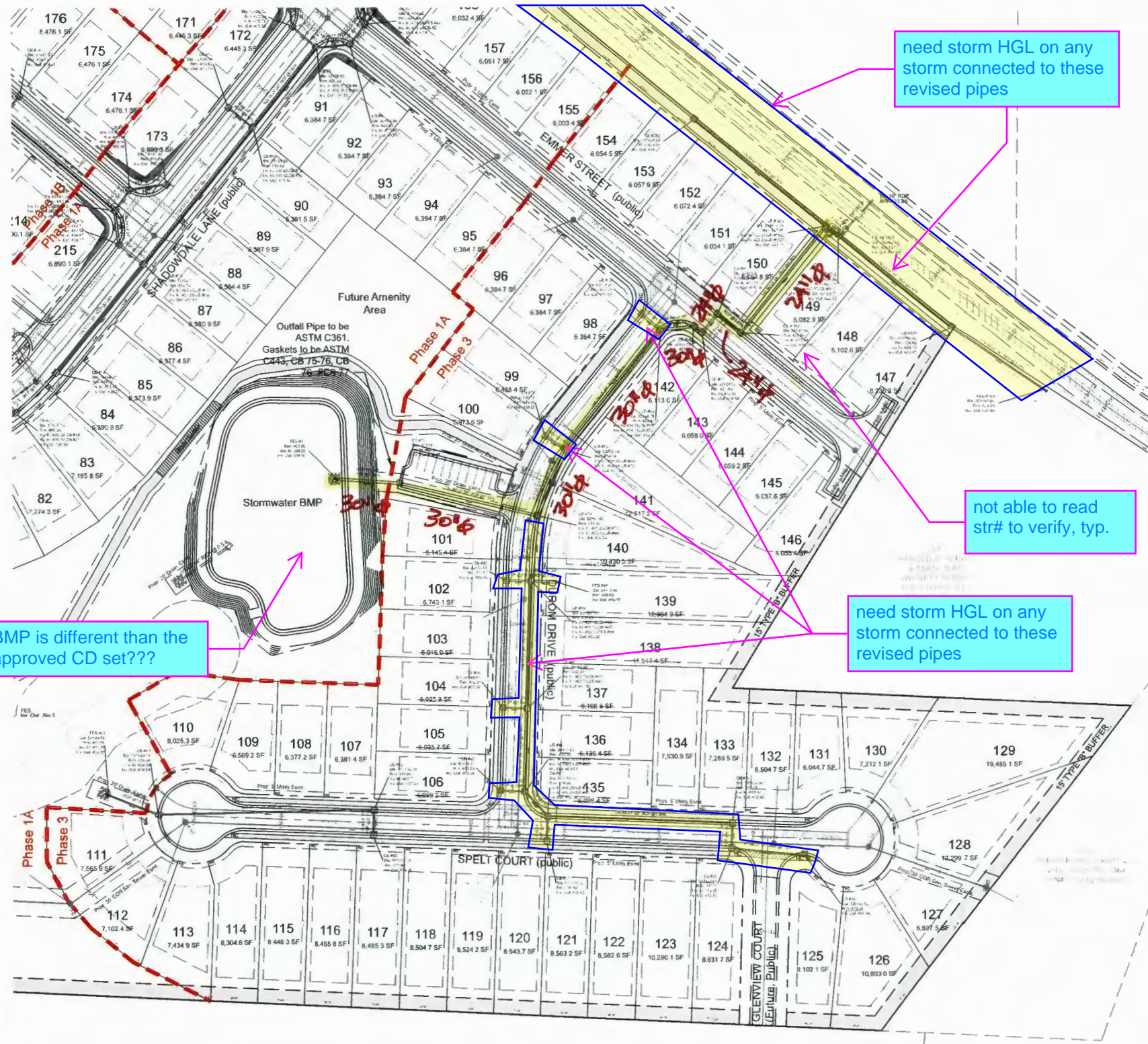
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North Arrow

NORTH

Job No. JDF
Dwg No. **C14**

ORIGINAL



IMPORTANT NOTE REGARDING MH AND CB TOP ELEVATIONS:
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SITE PERMITTING APPROVAL
Water and Sewer Permits (if applicable)

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The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # W-3767

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for the project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit #

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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City of Raleigh Development Approval _____
Raleigh Water Review Officer

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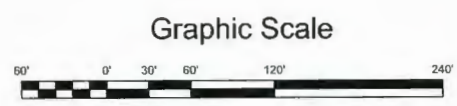


caaENGINEERS, Inc.
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C-2161

NO.	DATE	REVISION DESCRIPTION	BY
1	03/08/2023	Preliminary Construction Plans	BAC
2	09/27/2023	Revised per 1st review comments	BAC
3	11/27/2023	2nd Review Comments	BAC
4	01/17/2024	3rd Review Comments	BAC
5	01/17/2024	Revised for signature approval	BAC
6	02/22/2024	Revised for signature approval	BAC
7	02/22/2024	Revised for signature approval	BAC
8	02/22/2024	Revised for signature approval	BAC
9	02/22/2024	Revised for signature approval	BAC
10	02/22/2024	Revised for signature approval	BAC



Phase 3 Storm Drainage
Preserve at Jones Dairy, South
Preserve at Jones Dairy, LLC
Rolesville, Wake County, North Carolina



Job No. JDF
Dwg No. C14

Revised



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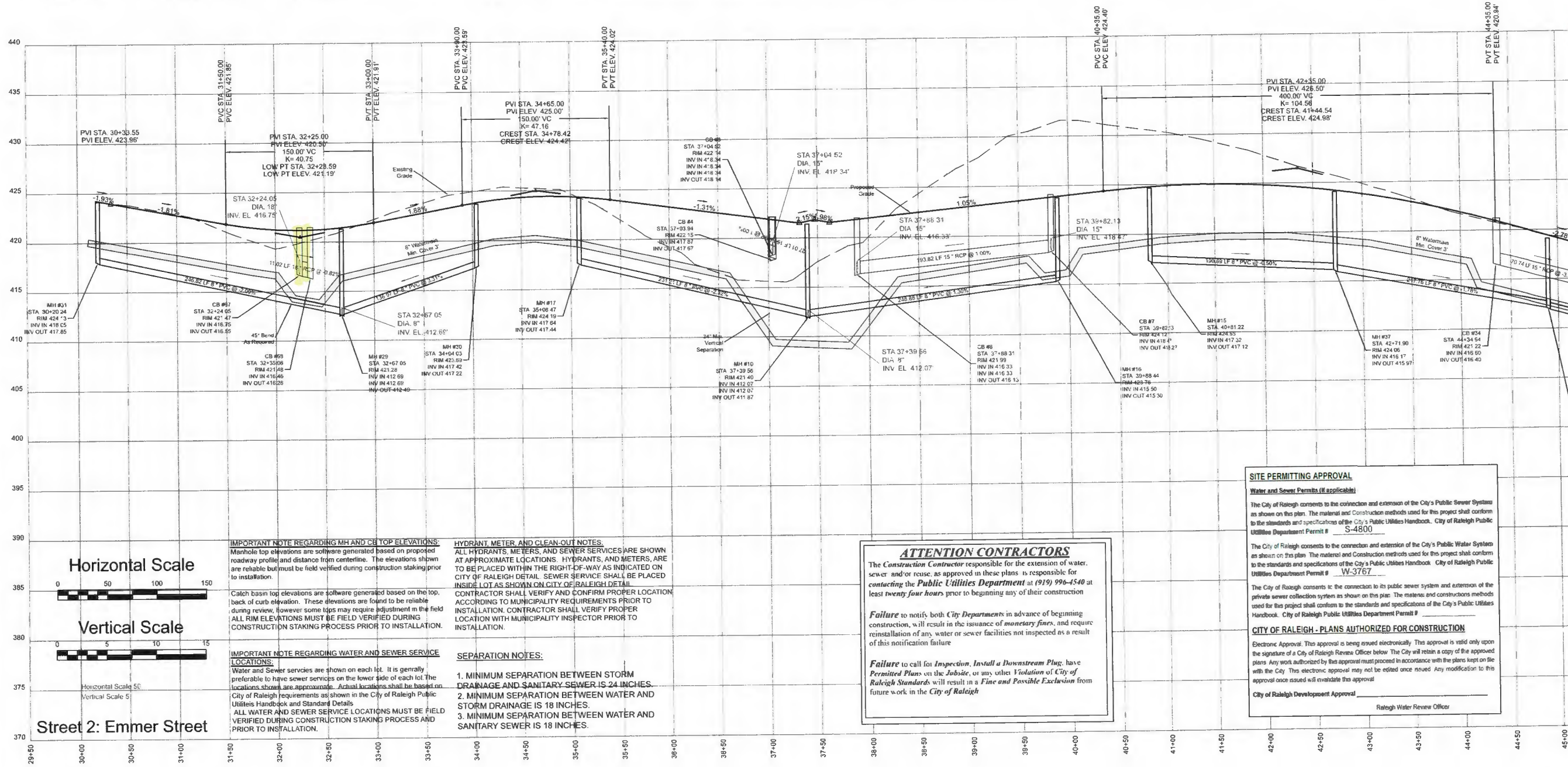
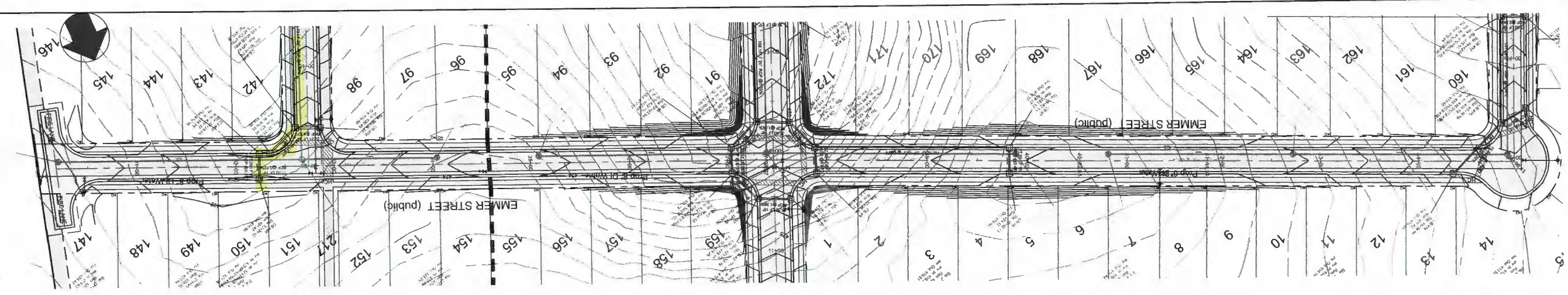
NO.	DATE	REVISION DESCRIPTION	BY
1	05/08/2003	Primary Construction Plans	MAC
2	10/23/2003	Revised per 1st review comments	MAC
3	11/03/2003	Revised per 2nd review comments	MAC
4	01/11/2004	Revised per 3rd review comments	MAC
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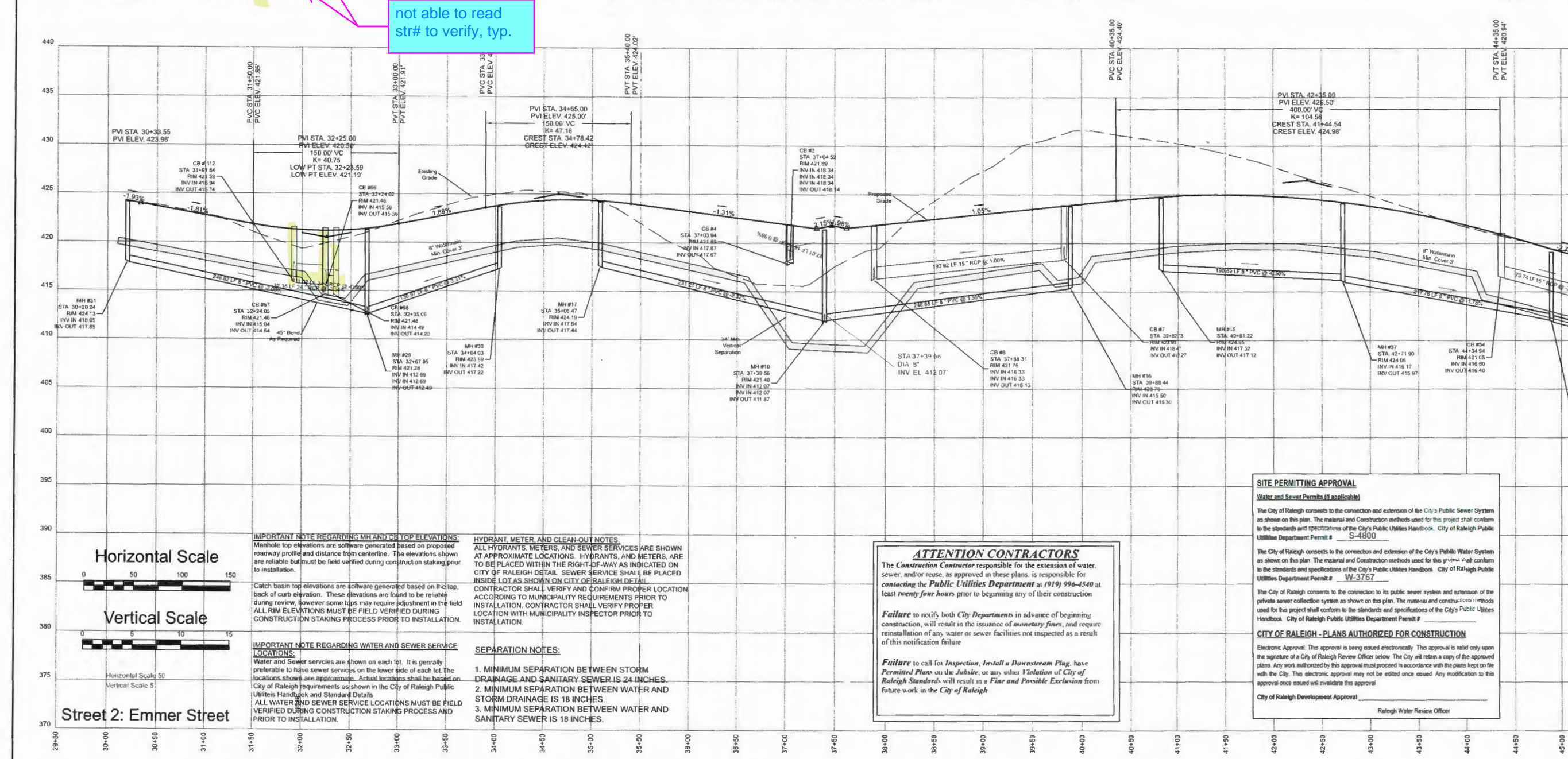
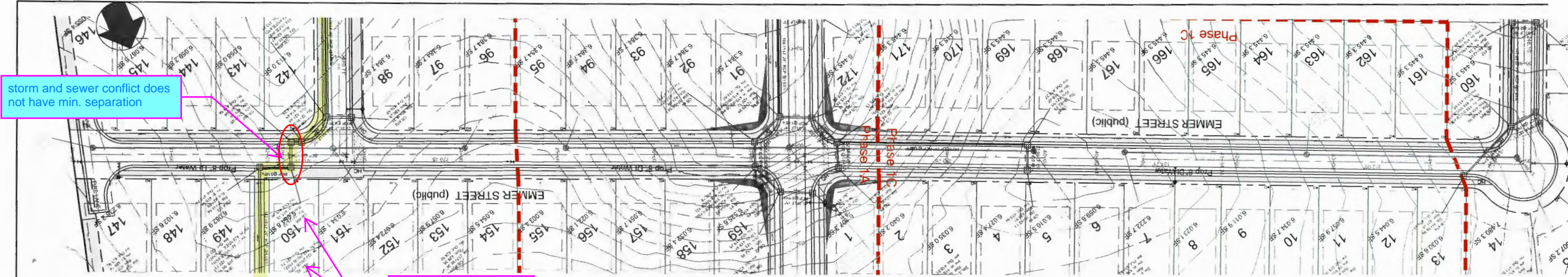
Emmer Street
Preserve at Jones Dairy, South
Preserve at Jones Dairy, LLC
Rolesville, Wake County, North Carolina

Job No. JDF
Dwg No. **C27**

ORIGINAL



SITE PERMITTING APPROVAL
Water and Sewer Permits (if applicable)
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City of Raleigh Development Approval
Raleigh Water Review Officer



Horizontal Scale
Vertical Scale
Street 2: Emmer Street

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IMPORTANT NOTE REGARDING WATER AND SEWER SERVICE LOCATIONS:
Water and sewer services are shown on each lot. It is generally preferable to have sewer services on the lower side of each lot. The locations shown are approximate. Actual locations shall be based on City of Raleigh requirements as shown in the City of Raleigh Public Utilities Handbook and Standard Details. ALL WATER AND SEWER SERVICE LOCATIONS MUST BE FIELD VERIFIED DURING CONSTRUCTION STAKING PROCESS AND PRIOR TO INSTALLATION.

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SEPARATION NOTES:
1. MINIMUM SEPARATION BETWEEN STORM DRAINAGE AND SANITARY SEWER IS 24 INCHES.
2. MINIMUM SEPARATION BETWEEN WATER AND STORM DRAINAGE IS 18 INCHES.
3. MINIMUM SEPARATION BETWEEN WATER AND SANITARY SEWER IS 18 INCHES.

ATTENTION CONTRACTORS
The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty-four hours prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for inspection, install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

SITE PERMITTING APPROVAL
Water and Sewer Permits (if applicable)
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-4800.

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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
Electronic Approval. This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval _____
Raleigh Water Review Officer _____



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PROFESSIONAL ENGINEERS
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4832B Windy Hill Drive, Raleigh, North Carolina 27609
C-2151

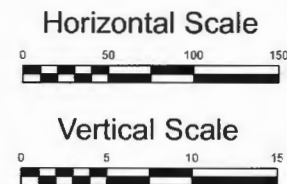
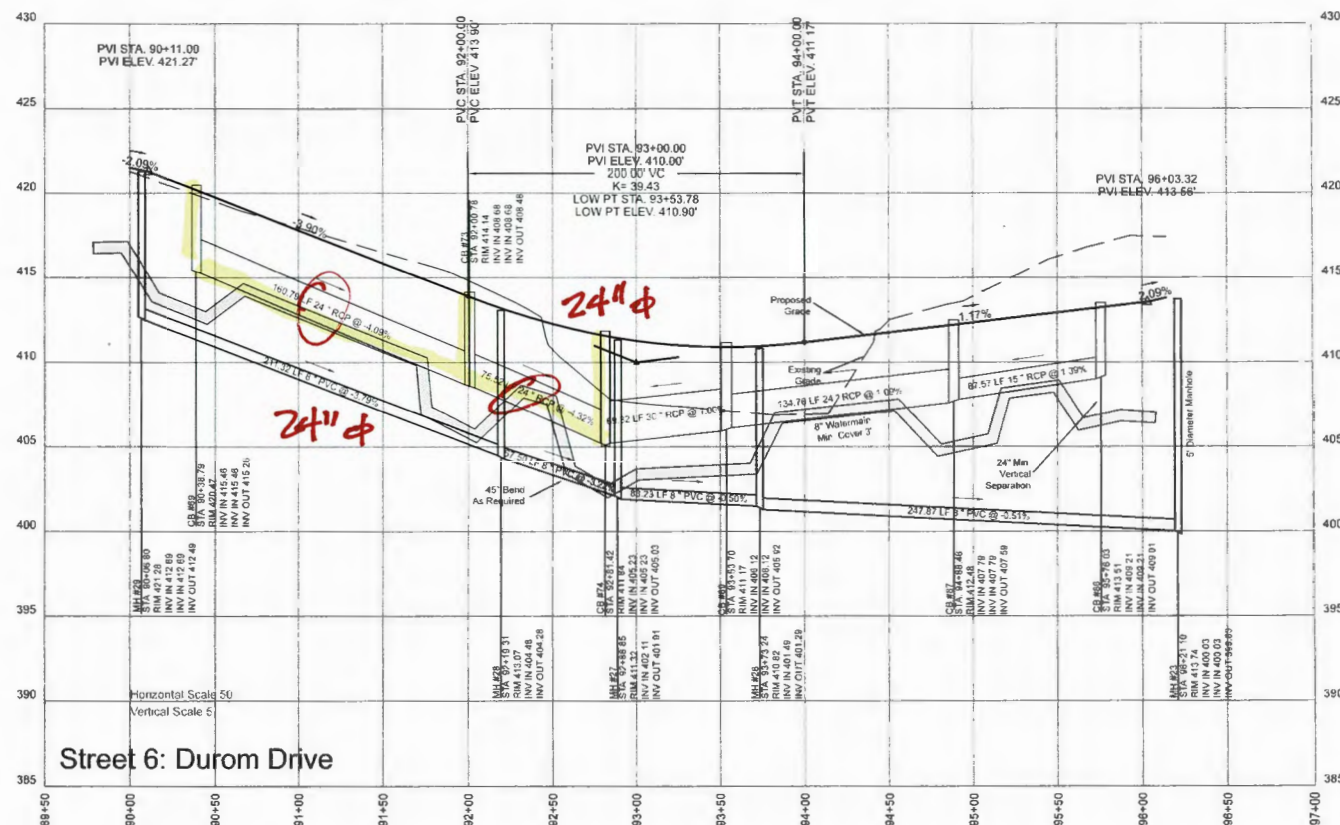
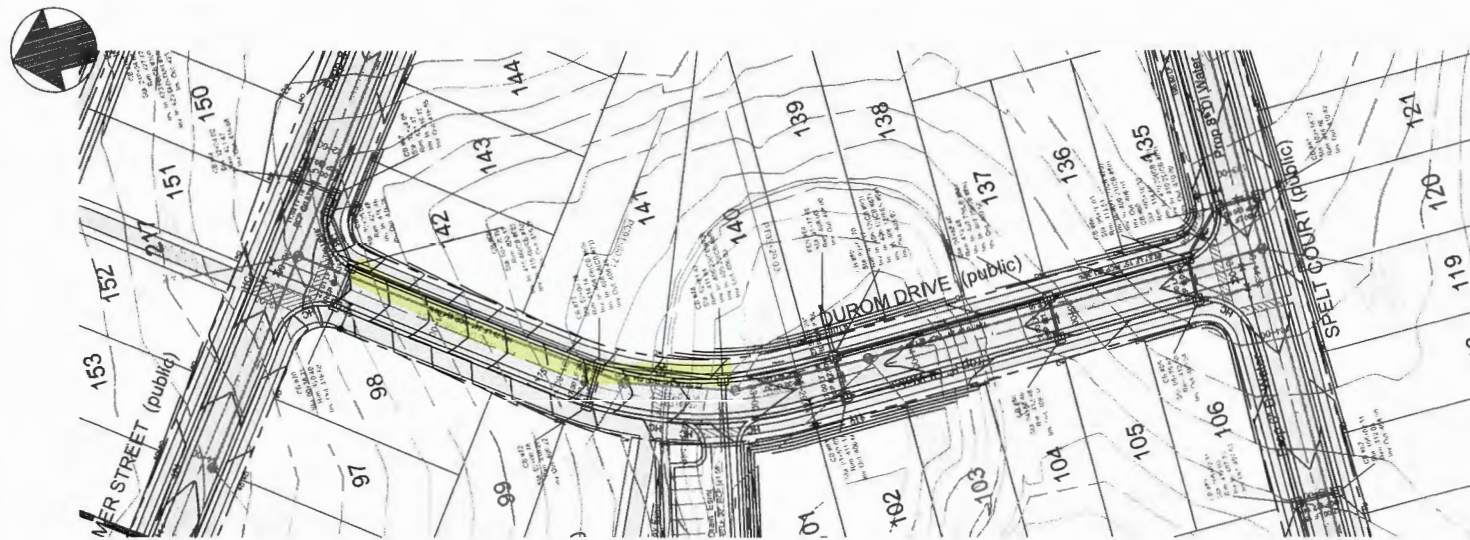
NO.	DATE	REVISION DESCRIPTION	BY
1	05/08/2020	Preliminary Construction Plans	MAC
2	05/22/2020	Revised per 1st review comments	MAC
3	11/25/2020	2nd Review Comments	MAC
4	01/12/2021	3rd Review Comments	MAC
5	01/12/2021	Revised to signature approval	MAC
6	09/22/2021	Revised to signature approval	MAC
7	09/22/2021	Revised to signature approval	MAC
8	09/22/2021	Revised to signature approval	MAC



Emmer Street
Preserve at Jones Dairy, South
Preserve at Jones Dairy, LLC
Rolesville, Wake County, North Carolina

Job No. JDF
Dwg No. C27

REVISED



IMPORTANT NOTE REGARDING MH AND CB TOP ELEVATIONS:
Manhole top elevations are software generated based on proposed roadway profile and distance from centerline. The elevations shown are reliable but must be field verified during construction staking prior to installation.

Catch basin top elevations are software generated based on the top, back of curb elevation. These elevations are found to be reliable during review, however some tops may require adjustment in the field. ALL RIM ELEVATIONS MUST BE FIELD VERIFIED DURING CONSTRUCTION STAKING PROCESS PRIOR TO INSTALLATION.

IMPORTANT NOTE REGARDING WATER AND SEWER SERVICE LOCATIONS:
Water and Sewer services are shown on each lot. It is generally preferable to have sewer services on the lower side of each lot. The locations shown are approximate. Actual locations shall be based on City of Raleigh requirements as shown in the City of Raleigh Public Utilities Handbook and Standard Details.

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SEPARATION NOTES:

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HYDRANT, METER, AND CLEAN-OUT NOTES:
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SITE PERMITTING APPROVAL
Water and Sewer Permits (if applicable)

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City of Raleigh Development Approval _____
Raleigh Water Review Officer _____

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4832B Windy Hill Drive, Raleigh, North Carolina 27609
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NO.	DATE	REVISION DESCRIPTION	BY
1	01/08/2023	Preliminary Construction Plans	MAC
2	10/23/2023	Revised per 18th Street comments	MAC
3	11/26/2023	Revised per 18th Street comments	MAC
4	01/11/2024	Revised per 18th Street comments	MAC
5	01/11/2024	Revised per 18th Street comments	MAC
6	01/11/2024	Revised per 18th Street comments	MAC
7	01/11/2024	Revised per 18th Street comments	MAC
8	01/11/2024	Revised per 18th Street comments	MAC
9	01/11/2024	Revised per 18th Street comments	MAC
10	01/11/2024	Revised per 18th Street comments	MAC



Durom Drive
Preserve at Jones Dairy, South
Preserve at Jones Dairy, LLC
Rolesville, Wake County, North Carolina

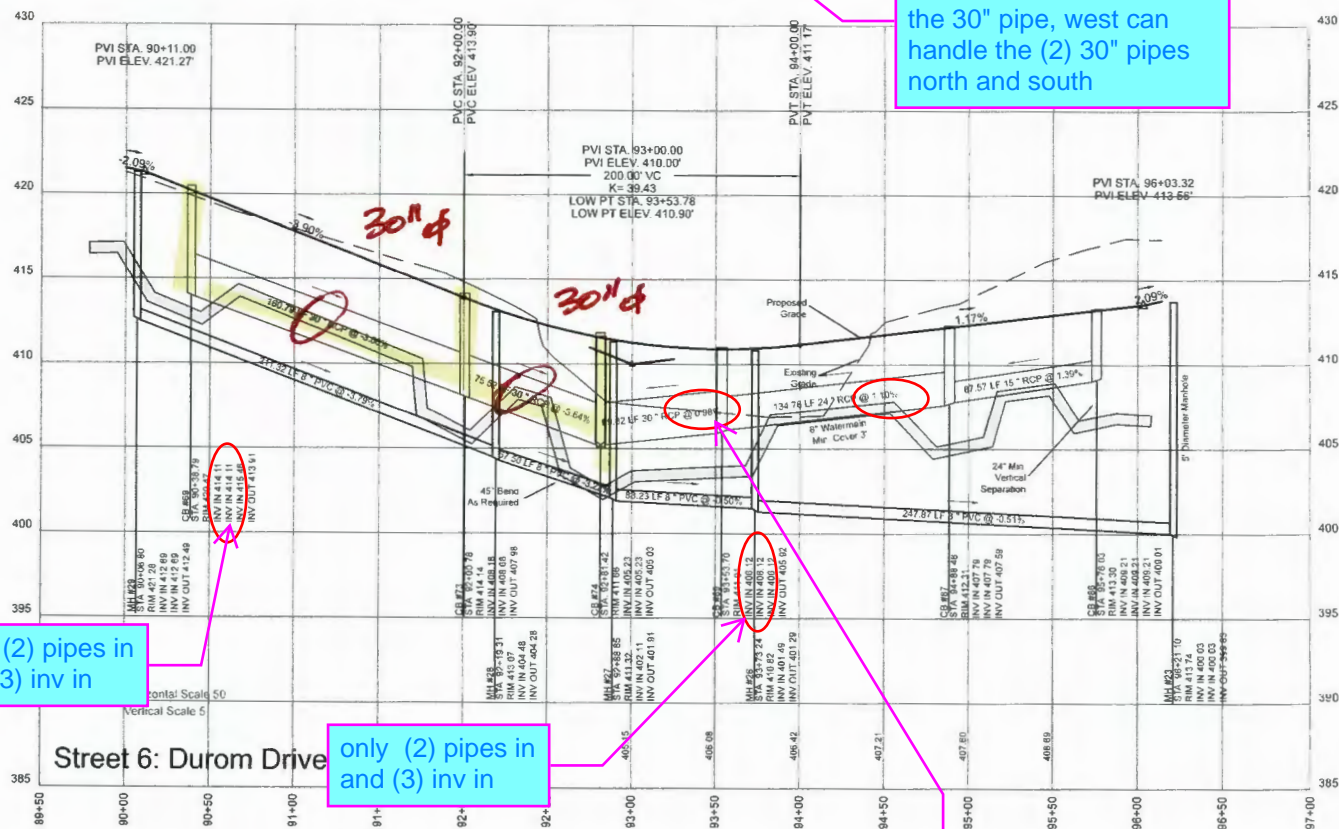
Job No. JDF
Dwg No. **C31**

ORIGINAL



not able to read
str# to verify, typ.

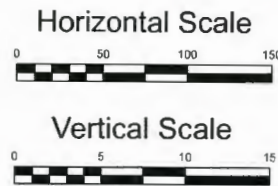
need to see additional
storm calcs to show that
the 30" pipe, west can
handle the (2) 30" pipes
north and south



only (2) pipes in
and (3) inv in

only (2) pipes in
and (3) inv in

grades are different than
the original design?
another reason for
needing all pipes to storm
BMP to show HGL
changes



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City of Raleigh Development Approval _____
Raleigh Water Review Officer

ATTENTION CONTRACTORS

The **Construction Contractor** responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for **contacting the Public Utilities Department** at (919) 996-4544 at least **twenty-four hours** prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of **monetary fines**, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for **Inspection** **Install a Downstream Plug** have **Permitted Plans** on the **Job site**, or any other **Violation of City of Raleigh Standards** will result in a **Fine and Possible Exclusion** from future work in the **City of Raleigh**.



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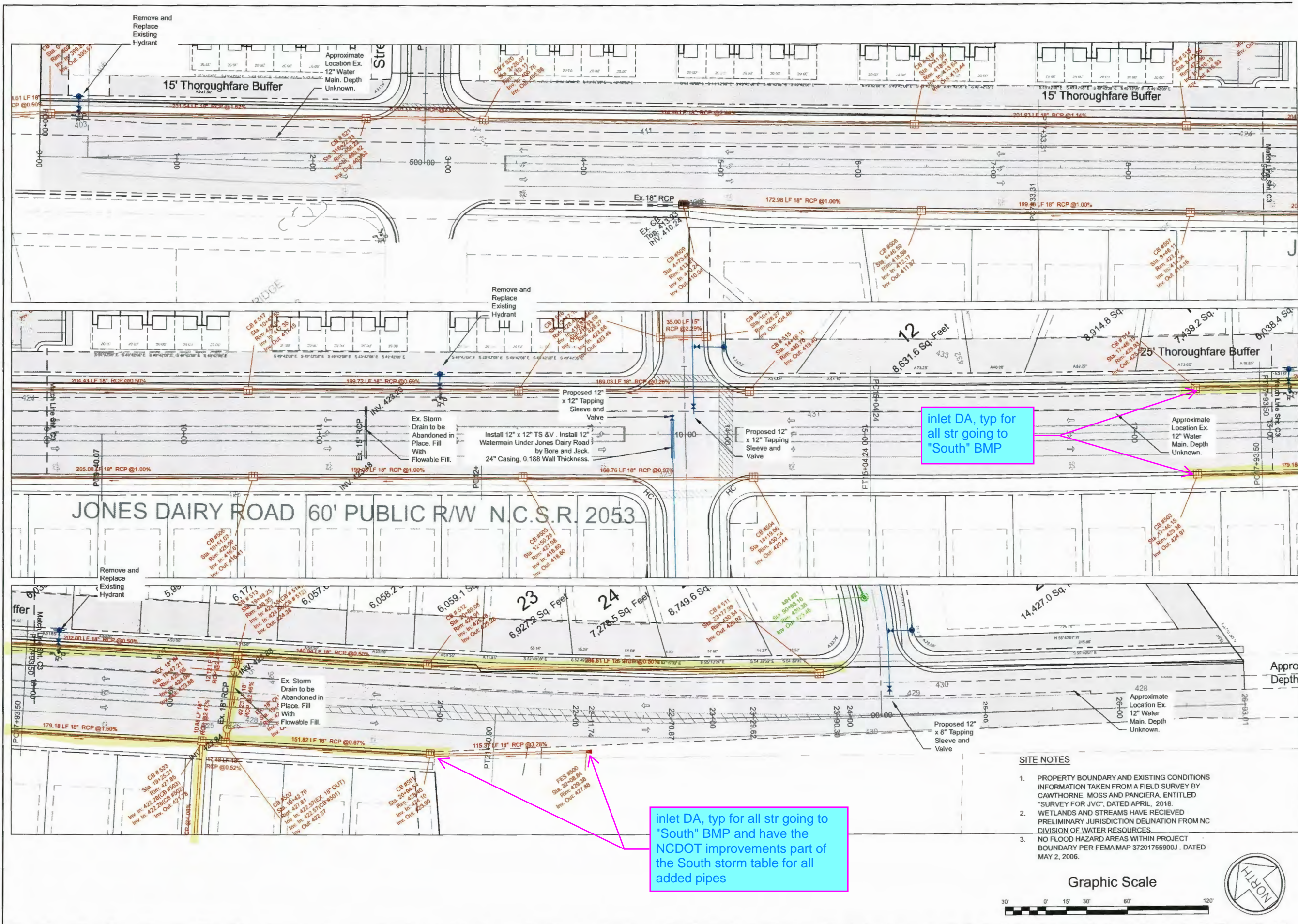
NO.	DATE	REVISION DESCRIPTION	BY	REV.
1	06/02/2023	Preliminary Construction Plans	MAC	
2	10/23/2023	Revised per 1st review comments	MAC	
3	11/05/2023	Revised per 2nd review comments	MAC	
4	01/11/2024	Revised per 3rd review comments	MAC	
5	02/13/2024	Revised per 4th review comments	MAC	
6	02/22/2024	Revised per 5th review comments	MAC	
7	03/01/2024	Revised per 6th review comments	MAC	
8	03/01/2024	Revised per 7th review comments	MAC	
9	03/01/2024	Revised per 8th review comments	MAC	
10	03/01/2024	Revised per 9th review comments	MAC	



Durom Drive
Preserve at Jones Dairy, South
Preserve at Jones Dairy, LLC
Rolesville, Wake County, North Carolina

Job No. JDF
Dwg No. **C31**

Revised



caaENGINEERS, Inc.
 McIntyre, Gettle, Crowley
 PROFESSIONAL ENGINEERS
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 (919) 255-8725
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NO.	DATE	REVISION DESCRIPTION	BY
1	08/09/2023	Preliminary Construction Plans	MACC
2	10/17/2023	Revised Plans	MACC
3	04/04/2024	Comments	MACC
4	04/04/2024	Comments	MACC
5	04/04/2024	Comments	MACC
6	04/04/2024	Comments	MACC
7	04/04/2024	Comments	MACC
8	04/04/2024	Comments	MACC



PRELIMINARY PLANS
 NOT FOR CONSTRUCTION

Utility Plan
Jones Dairy Road
 Preserve at Jones Dairy, South
 Jones Dairy Road Widening
 Rolesville, Wake County, North Carolina

Job No. JDF
 Dwg No. **C4**

- SITE NOTES**
1. PROPERTY BOUNDARY AND EXISTING CONDITIONS INFORMATION TAKEN FROM A FIELD SURVEY BY CAWTHORNE, MOSS AND PANCIERA, ENTITLED "SURVEY FOR JVC", DATED APRIL, 2018.
 2. WETLANDS AND STREAMS HAVE RECEIVED PRELIMINARY JURISDICTION DELINEATION FROM NC DIVISION OF WATER RESOURCES.
 3. NO FLOOD HAZARD AREAS WITHIN PROJECT BOUNDARY PER FEMA MAP 37201755900J, DATED MAY 2, 2006.



Revised